QC

Quality Control

Memo

										DQA:	Date:	
NCR:	Yes / No				WORK ORDER NON-C	O	VFORM	MANCE / UPDATE		OA CI		
										QA Closed:	Date:	
Work Orde	ar:				DISPOSITION			AC	GAINST DE	PARTMENT	/PROCESS	
WOIK OIG			.,		Rework	1		Skid-tube Cro	sstube		Water Jet	Engineering
Part N	No.				Scrap	1		├ ──	nall Fab	Pro	d. Eng. Coor.	Quality
					Use-as-is	1	Therm	noforming Fi	nishing	Rec/Sto	re/Packaging	Other
NCR N	No				Work Order Update]		Large Fab Con	nposite		Supplier	
Root		T		Descri	ption of work order update		nitial	Action		Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Description	1	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling												
Operator												
Material												
Setup												
Other								-				
Process												
Supplier								•				
Training			1			ļ						·
Unapproved			<u></u>						 			<u> </u>
						AUL	T CATE	GORY	-			
Landi	ng Gear				General		7		F	1		٦
	Bending			ļ	Bend		Grain			Ovalized	L	Pressure/Forced
	\vdash	Not Conce	ntric to	0/S	BOM/Route	<u>_</u>	Hardwa		.	Over/Under	-	Temperature/Cure
	Cracks			<u> </u>	Broken/Damaged		1 '	on Incomplete		Part Incorre	<u></u>	Weld
	⊢	/Crimped	-	_	Burrs			ions Incomplete/Unclea		Part Lost/M	_	Wrong Stock Pulled
	Cuffs			<u> </u>	Contamination	-	Mainte			Part Moved		
	Heat Tre				Countersink	<u></u>	Mislabe			Positioned \	_	7
		on Strip in	Tube	_	Cut Too Short	<u></u>	Misread			Power Loss/	'Surge	Other
	Ripples	in Bend		1	Drill Holes		Offset				-	

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ordo October-30-12				*924	15*					Page 2	
Item ID: Revision ID:	D3246-041			Accept	*N900	04010 0)* s	etup S		*NS1*	=
Item Name:	Mounting Bra	icket						•	Stop	*NS2*	
Start Date:	10/29/12	Start Qty: 6.00	*6*		Cust Item II	D:					
Required Date: Reference:	11/09/12	Req'd Qty: 6.00	*6*		Customer:						
Approvals:	Process Pla	an:	Date:	Tooling:	Da	te:	R		Start	*NR1*	
	QC:		Date:	SPC (Y/N):		te:		;	Stop	*NR2*	
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool # Plan Code	Accept Qty	Reject Qty		Reject Insp. Number Stamp	- 2/
130		NC BRAKE		****			(8))		80 , 11	,
Brake NC		Memo		0.00							
Brake NC		DeburrForm	as per Dwg D3246C'sin	ok as per Dwg D3246			D			1	/v
140		QC5- Inspect part compl	eteness to step on W/O	0.00						·	
140 QC Quality Control		Memo		5mb 0.00 12 12 19	j		8	-			
150		Chemical Conversion Co	oat per QSI005 4.1	0.00			4		B	12.2	
150							8	<i>y</i>	D/	12-12-19	
HandFinish		Memo		0.00							

Hand Finishing

NCR:	Yes /	No	÷			WORK ORDER NON-	100	VFORM	MANCE / UP	DATE					
											(QA Closed:	Da	te:	
Work Orde	er:					DISPOSITION	7			AGAINST I	DEP.	ARTMENT			-
Part N						Rework Scrap Use-as-is Work Order Update		1 Thern	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite			Water Jet d. Eng. Coor. e/Packaging Supplier		Engineering Quality Other
Root						ption of work order update	1	Initial		tion		Sign &	· · · · · · · · · · · · · · · · · · ·		
Cause		Date	Step	Qty		or Non-conformance	Ct	nief Eng	Desc	ription		Date	Verificatio	n	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved								LT CATE	GORY						
Landi	ng Ge				· · · · · · · · · · · · · · · · · · ·	General			COM			y.			
	Be Ce Cr Cr Cr In Ri	ending entre No acks ushed/O iffs eat Trea spectior pples in	n Strip in Bend	Tube		Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		Instruct Mainte Mislabe Misread Offset	ion Incomplete ions Incomplete/ enance eled d	Unclear		Ovalized Over/Under Part Incorrei Part Lost/Mi Part Moved Positioned V Power Loss/	ct ssing Vrong		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	l ITa	raue W	aves in F	ytrusion	, 1	Drawing	1	lOut of (Calibration						

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Orde				*924	15*				Page 3
Item ID: Revision ID: Item Name:	D3246-041 Mounting Bra	acket		Accept	*N900	04010 0)* se	etup Start Stop	14.21
Start Date: Required Date: Reference:	10/29/12	Start Qty: 6.00 Req'd Qty: 6.00	*6* *6*		Cust Item I Customer:	D:			14.32
Approvals:		an:	Date:	Tooling: SPC (Y/N):		ate:	R	un Start Stop	"NR1"
Sequence ID/ Work Center II 160 *160* QC Quality Control)	Operation Description QC3- Inspect Part Finish Memo		Set Up/ Run Hours 0.00	Tool ID	Tool # Plan Code	Accept Qty	Reject Qty	Reject Insp. Number Stamp
170 Small Fab Small Fab		Small Fab Memo Install Nut F	lates as per Dwg D3246	0.00			8<		- J. 12/1
180 QC Quality Control		QC5- Inspect part compl	eteness to step on W/O	0.00 PAS 15, 0.00 12 12 2	λ		8		

											DQA:	Date:	
NCR: \	res /	No				WORK ORDER NON-	COI	NFORN	ANCE / UPE	DATE	•	<u>_</u>	
											QA Closed:	Date:	
Work Orde	ar.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
WOIK OIGE	-'' —		·		 ·	Rework	٦		Skid-tube	Crosstube]	Water Jet	Engineering
Part N	No.					Scrap		i	Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is]	ł .	noforming	Finishing	Rec/Sto	e/Packaging	Other
NCR N	No					Work Order Update	_		Large Fab	Composite	j	Supplier	
Root					Descri	ption of work order update	T	Initial	Act	ion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	nief Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data								-					
Equip/Tooling	Ш												
Operator						•							
Material													`
Setup	Ш												
Other	Ш				*								
Process	Ш							i					
Supplier	Ш												
Training	Ш										1		
Unapproved			<u> </u>				\perp						
			·				FAUL	LT CATE	GORY				
Landi	ng Gea					General	_	1			7	_	7
	⊢	ending			<u> </u>	Bend	<u> </u>	Grain		<u> </u>	Ovalized		Pressure/Forced
	-		ot Concer	ntric to (o/s	BOM/Route	_	Hardwa		<u> </u>	Over/Under		Temperature/Cure
		acks				Broken/Damaged	<u>_</u>	-1	on Incomplete	<u></u>	Part Incorre	 	Weld
	_		Crimped.			Burrs	_		ions Incomplete/l	Jnclear	Part Lost/M	- <u>-</u>	Wrong Stock Pulled
	⊢	ıffs				Contamination	_	Mainte			Part Moved		
	\vdash	eat Trea			<u></u>	Countersink	<u> </u>	Mislabe			Positioned \		٦
	∐In	spectio	n Strip in	Tube		Cut Too Short		Misread	j		Power Loss,	/Surge	Other
[l IRi	pples in	Bend		I	Drill Holes		Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 92415 *92415* Page 4 October-30-12 12:48:05 PM Item ID: D3246-041 Accept *N900040100* Setup Start Revision ID: Mounting Bracket Item Name: Start Qty: 6.00 **Start Date:** 10/29/12 **Cust Item ID:** Req'd Qty: 6.00 Required Date: 11/09/12 **Customer:** Reference: Run Process Plan: Tooling: Approvals: Date: Date: Stop Date: _____ SPC (Y/N): QC: Date: Reject Reject Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Accept Insp. Number Stamp Qty Work Center ID Description Code Qty **Run Hours** Identify as per dwg & Stock Location: \$\frac{1}{2} \text{ } \text{ 190 *190* 0.00 Packaging Memo Packaging 200 QC21- Final Inspection - Work Order Release 0.00 *200*

0.00

Memo

Quality Control

13/1/10905 MV 12-12-27

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORN	MANCE / UPDATE		QA Closed:	Date:	
				<u> </u>		DISPOSITION			AGA		PARTMENT		
Work Ord	er: .						٦					\\\\-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7
Part 1	۷o.					Rework Scrap Use-as-is		ľ	Machining Smal	tube I Fab shing		Water Jet d. Eng. Coor. e/Packaging	Engineering Quality Other
NCR	No.					Work Order Update	_		Large Fab Comp	· ·		Supplier	
Root					Descri	ption of work order update	T	nitial	Action		Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Description		Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup													
Other	H												
Process	\vdash		1				1						
Supplier Training													
Unapproved													
Onapproved			L	<u> </u>	<u> </u>		AUI	T CATE	GORY	•	i	<u> </u>	
Landi	ng (Gear				General						· · · · · · · · · · · · · · · · · · ·	
		Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre N	ot Conce	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
		Crushed/	Crimped	\mathcal{L}_{-} .		Burrs		4 .	ions Incomplete/Unclear		Part Lost/M	issing	Wrong Stock Pulled
		Cuffs	•		<u> </u>	Contamination		Mainte			Part Moved	- L -	
		Heat Trea	at			Countersink		Mislabe	led		Positioned \	Vrong	
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	i		Power Loss,	'Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish Folio

Picklist Print

* October-30-12 12:48:04 PM

Work Order ID:

92415

Parent Item:

D3246-041

Parent Item Name:

Mounting Bracket

Start Date: 10/29/12

Required Date: 11/09/12

Page 1

Start Qty: 6.00

Required Qty: 6.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.050 2024-T3 .050 sheet		Purchased	No			170	sf	178.0484	0.3097	1.956	3, B12-	11-4	
				Location		Loc Qty	Lo	oc Code			/ \		
				MAT022		178.0484204					/&\		
				117	684	17.8			417	CRY _	(O)		
				121	216	45.6484204						_	
				121	889	114.6							
MS20426AD3-3		Purchased	No			170	Each	19,562.750	8	48		12/1	2 /. C
Rivet											7-1	of 10	<i ///
				Location		Loc Oty	<u>L</u> c	oc Code				/ /	
				ST316		1470							
				119	109	282							
				121	011	771						•	
				190	99	417							
				ST333		6250							
•				123	352	6250							
				ST334		11842.75					•		

11842.75

122814

									DQA:	Date:	
NCR: Yes	5 / No				WORK ORDER NON-C	ONFORI	MANCE / UP		QA Closed:	Date:	
Work Order:					DISPOSITION			AGAINST DE	PARTMENT	PROCESS	· · · · · · · · · · · · · · · · · · ·
Part No.			,		Rework Scrap		Skid-tube Machining	Crosstube Small Fab	Pro	Water Jet d. Eng. Coor.	Engineering Quality
NCR No.					Use-as-is Work Order Update		noforming Large Fab	Finishing Composite		re/Packaging Supplier	Other
Root	Į į			Descri	ption of work order update	Initial	Ad	ction	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chief Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling]										
Operator											ii
Material										-	
Setup											·
Other											
Process		:									
Supplier											ĺ
Training]		

FAULT CATEGORY

Landing Gear General Pressure/Forced Bend Grain Ovalized Bending BOM/Route Temperature/Cure Centre Not Concentric to O/S Hardware Over/Under tolerance Broken/Damaged Part incorrect Cracks Inspection Incomplete Weld Part Lost/Missing Wrong Stock Pulled Crushed/Crimped. Burrs Instructions Incomplete/Unclear Cuffs Contamination Maintenance Part Moved Heat Treat Countersink Mislabeled Positioned Wrong Inspection Strip in Tube **Cut Too Short** Misread Power Loss/Surge Other Ripples in Bend Drill Holes Offset Out of Calibration Torque Waves in Extrusion Drawing Turning Sequence Out of Sequence Finish Folio Wave/Twist in Tube Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Unapproved

October-30-12 12:48:04 PM

Work Order ID:

92415

Parent Item:

D3246-041

Parent Item Name:

Mounting Bracket

No

Purchased

Start Date: 10/29/12

227.0000

Required Date: 11/09/12

Start Qty: 6.00

Required Qty: 6.00

24



Location	Loc Oty	Loc Code	
302	10		
121185	10		
314	3		
122452	3		
ST301	28		
118614	8		
119546	20		
ST302	124		
120308	13		
120833	1		
121444	100		
121524	10		
ST316	62		
122814	62		

Each

110

M123900 -247 3-24

				DQA:	Date:	
ICR:	Yes /	No	WORK ORDER NON-CONFORMANCE / UPDATE			
				OA Closed:	Data	

					· · · · · · · · · · · · · · · · · · ·					QA Closed.	Date.	
Work Orde	er:				DISPOSITION				AGAINST DE	PARTMENT/	PROCESS	
			-	· · · · · · · · · · · · · · · · · · ·	Rework	1		Skid-tube	Crosstube		Water Jet	Engineering
Part N	In				Scrap	i i		Machining	Small Fab	Proc	d. Eng. Coor.	Quality
, aren					Use-as-is			oforming	Finishing		e/Packaging	Other
NCR N	in				Work Order Update	1		Large Fab	Composite	1100,010.	Supplier	
· · · · ·					Work order opadie	'					2214.12.	ا
Root				Descri	ption of work order update	Init	ial	Act	ion	Sign &	=: ·	
Cause	Date	Step	Qty	:	or Non-conformance	Chief	Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling											•	
Operator				•								
Material												
Setup											! 	
Other												
Process												
Supplier												
Training						1						
Unapproved						1						
•	•				F	AULT (CATE	GORY			· · · · · · · · · · · · · · · · · · ·	
Landir	ng Gear				General							
	Bending				Bend	Gr	rain			Ovalized		Pressure/Forced
	Centre N	ot Conce	ntric to	o/s	BOM/Route	На	ardwa	re		Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged	Ins	specti	on Incomplete		Part Incorre	<u> </u>	Weld
	Crushed	Crimped.			Burrs	-		ions incomplete/l	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs	•			Contamination	\vdash		nance		Part Moved	· _	
	Heat Tre	at			Countersink	\vdash	islabe			Positioned V	Vrong	
		n Strip in	Tube		Cut Too Short		isread			Power Loss/		Other
	Ripples i		•		Drill Holes		ffset			.		<u> </u>
		Vaves in E	xtrusio	n	Drawing	\vdash		Calibration				
		Sequence			Finish	\mathbf{H}		equence				· :
		vist in Tul			Folio	\vdash		Dimensions				. Ф.

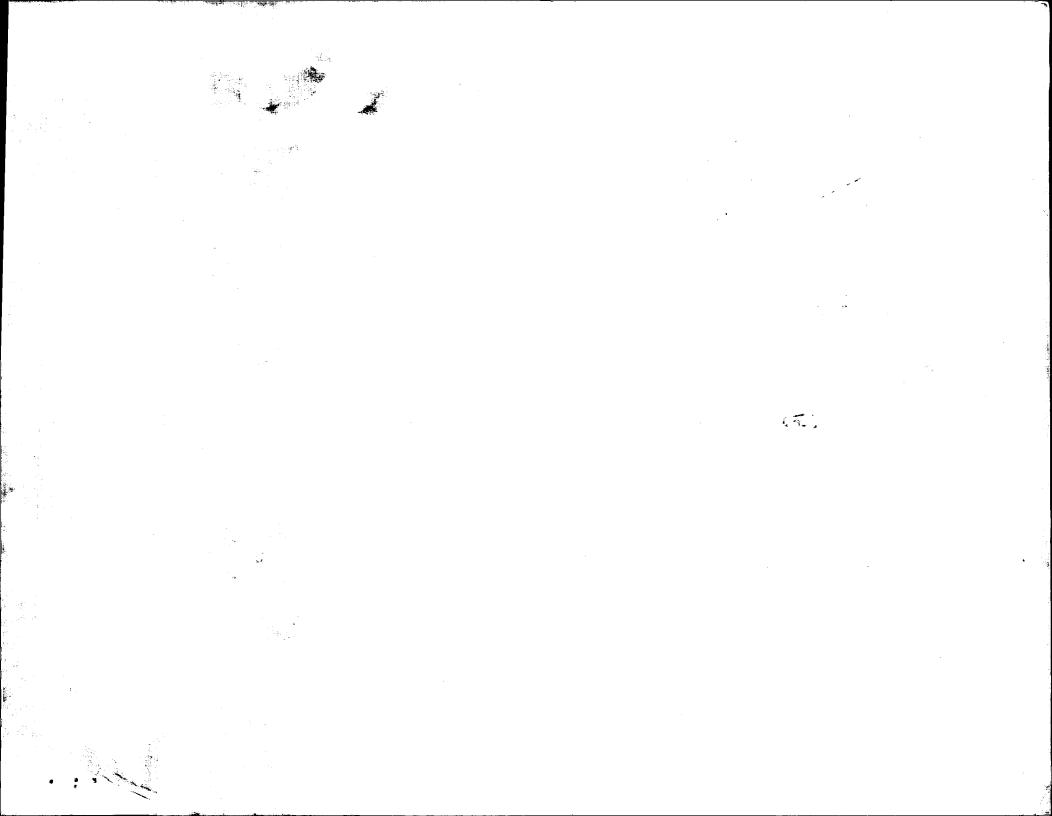
DART AEROSPACE LTD	Work Order:	92415
Description: Mounting Bracket	Part Number:	D3246-1
		•
Inspection Dwg: D3246 Rev: A1		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Х	First Article		Prototype
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Drawing	Tolerance	Actual	Accort	Reject	Method of	Comments
Dimension	i olerance	Dimension	Accept	Reject	Inspection	Comments
Ø0.098	+0.004/-0.001	099	١		V B02	
Ø0.250	+0.005/-0.001	250	2		V	
11.260	+/-0.010	11.257	٤		PROWSOZ	
6.754	+/-0.010	6.749	1_		V	
5.677	+/-0.010	084.2	L		v	
2.668	+/-0.010	2,665	;		V	
3.467	+/-0.010	3,464	2			
2.750	+/-0.010	2.749	1		V	
2.370	+/-0.010	2.367	L		V	
0.472	+/-0.010	,477	1		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
0.359	+/-0.010	359	Y		i	
0.300	+/-0.010	~			1	
0.301	+/-0.010	,308	***		V	
\						
						· · · · · · · · · · · · · · · · · · ·
			-			
			<u></u>			
			DAS			

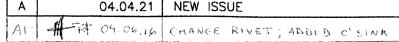
Meas	ured by: [2	Audited by:	Prototype Approval:	N/A
	Date:	2-11-4	Date: 13-1105	Date:	N/A
Rev	Date	Change		Revised by	Approved
A_{\perp}	07.11.23	New Issue	P/O D3246-041	لالم KJ/EC/DD	- 12

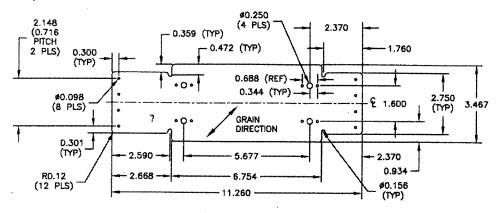




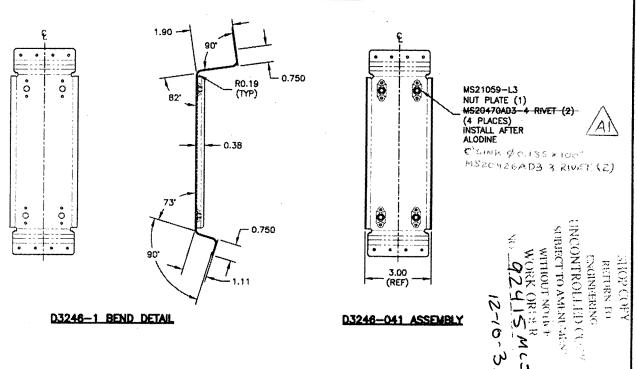


DESIGN	DRAWN BY	DART AEROSPA HAWKESBURY, ONTARIO	· ··· · · · · · · · · · · · · · · · ·
CHECKED	APPROVED	DRAWING NO.	REV. A SHEET 1 OF 1
DATE		TITLE	SCALE
04.04.21		MOUNTING BRACKET	1:4





D3246-1 FLAT PATTERN



NOTES:

- MATERIAL: 2024-T3 (QQ-A-250/4) 0.050 THICK (REF. DART SPEC. M2024T3S.050) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 4) ALL DIMENSIONS ARE IN INCHES 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

